



# National Transportation Safety Board Aviation Accident Final Report

<b>Location:</b>	Denver, CO	<b>Accident Number:</b>	DEN08LA010
<b>Date &amp; Time:</b>	10/12/2007, 1300 MDT	<b>Registration:</b>	N368CA
<b>Aircraft:</b>	Bombardier, Inc. CL-600-2C10	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	74 None
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

## Analysis

The airplane was about 1,500 feet above the ground when it flew through a flock of about 30 geese. The crew heard 3 to 4 thuds, and then the right engine immediately began running rough. The captain declared an emergency and returned to the airport. An examination of the airplane showed damage to the right engine fan and dents along both leading edge wing slats. Approximately 1 hour before the accident, the airport's Automatic Terminal Information Service reported a "bird advisory."

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the in-flight collision with geese shortly after takeoff.

## Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) OBJECT - BIRD(S)

## Factual Information

On October 12, 2007, approximately 1300 mountain daylight time, a Bombardier CL-600-2C10, N368CA, registered to and operated by Skywest Airlines as Flight 4021, and piloted by an airline transport-certificated pilot, was substantially damaged when it collided with a flock of birds shortly after taking off from Denver International Airport (DEN), Denver, Colorado. Visual meteorological conditions prevailed at the time of the accident. The scheduled domestic passenger flight was being conducted under the provisions of Title 14 CFR Part 121, and an instrument flight rules (IFR) flight plan had been filed and activated. The captain, first officer, 2 flight attendants, and 70 passengers on board the airplane were not injured. The cross-country flight was originating at the time of the accident and was en route to Salt Lake City (SLC) International Airport, Utah.

The captain reported they were about 1,500 feet above the ground when they saw a large flock of about 30 geese coming towards them. She said they heard 3 to 4 thuds, and then the right engine immediately began running rough. The VIB gauge was fluctuating rapidly from one extreme to the other. The captain declared an emergency and returned to DEN, landing uneventfully. An examination of the airplane showed damage to the right engine fan and dents along both wing leading edge slats. The left slat had to be replaced.

The DEN 1155 ATIS (Automatic Terminal Information Service) gave a "bird advisory."

## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	30, Female
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	08/01/2007
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	07/01/2007
<b>Flight Time:</b>	3933 hours (Total, all aircraft), 1673 hours (Total, this make and model), 1827 hours (Pilot In Command, all aircraft), 122 hours (Last 90 days, all aircraft), 32 hours (Last 30 days, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	26, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without Waivers/Limitations	<b>Last FAA Medical Exam:</b>	06/01/2007
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	08/01/2007
<b>Flight Time:</b>	1729 hours (Total, all aircraft), 731 hours (Total, this make and model), 715 hours (Pilot In Command, all aircraft), 119 hours (Last 90 days, all aircraft), 34 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bombardier, Inc.	<b>Registration:</b>	N368CA
<b>Model/Series:</b>	CL-600-2C10	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	10075
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	74
<b>Date/Type of Last Inspection:</b>	10/01/2007, Continuous Airworthiness	<b>Certified Max Gross Wt.:</b>	75250 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo Fan
<b>Airframe Total Time:</b>	12731 Hours at time of accident	<b>Engine Manufacturer:</b>	General Electric
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	CF34-8C5B1
<b>Registered Owner:</b>	Skywest Airlines, Inc.	<b>Rated Power:</b>	13790 lbs
<b>Operator:</b>	Skywest Airlines, Inc.	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	DEN, 5431 ft msl	Distance from Accident Site:	
Observation Time:	1253 MDT	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 12000 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 20000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.91 inches Hg	Temperature/Dew Point:	17° C / 4° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Denver, CO (DEN)	Type of Flight Plan Filed:	IFR
Destination:	Salt Lake City, UT (SLC)	Type of Clearance:	IFR
Departure Time:	1250 MDT	Type of Airspace:	

## Airport Information

Airport:	Denver International (DEN)	Runway Surface Type:	Concrete
Airport Elevation:	5431 ft	Runway Surface Condition:	Dry
Runway Used:	25	IFR Approach:	Visual
Runway Length/Width:	12000 ft / 150 ft	VFR Approach/Landing:	Full Stop

## Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	Substantial
Passenger Injuries:	70 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	74 None	Latitude, Longitude:	39.861667, -104.673056

## Administrative Information

Investigator In Charge (IIC):	Arnold W Scott	Report Date:	02/28/2008
Additional Participating Persons:	Robert Hofer; FAA Flight Standards District Office; Denver, CO		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinquiry@ntsb.gov">pubinquiry@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).